

Amendment to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims:

1. (currently amended) An end-effector device for use with an electrosurgical instrument for ~~robotic surgery~~ performing a minimally invasive surgical procedure, the end-effector device comprising:
~~at least one active electrode at a distal end of the device~~ an electrode;
~~coupling means adjacent a proximal end of the device~~ a mechanism for
coupling the device ~~electrode with the~~ to an electrosurgical instrument; and
~~at least one insulation material~~ an insulative sleeve disposed at least partially around the ~~active electrode for inhibiting~~ so as to inhibit conduction of electrical current flowing from the ~~active~~ electrode to the electrosurgical instrument; and
~~at least one internal sealing ring disposed so as to inhibit fluid from entering into an interior of the insulative sleeve and making contact with any portion of the electrode disposed therein during a minimally invasive surgical procedure.~~
2. (currently amended) [[An]] The end-effector device as in claim 1, wherein the ~~at least one active~~ electrode comprises a scalpel blade, a beaver blade, a hook, a spatula, movable jaws, scissors, a needle point, hockey stick, dissectors, or a probe.
3. (currently amended) [[An]] The end-effector device as in claim 1, wherein the ~~at least one active~~ electrode transmits radiofrequency energy during the ~~minimally invasive surgical procedure.~~

4. (currently amended) ~~[[An]]~~ The end-effector device as in claim 1,
wherein the ~~coupling means~~ coupling mechanism provides for removable coupling of the
device with the electrosurgical instrument.

5. (currently amended) ~~[[An]]~~ The end-effector device as in claim 4,
wherein the ~~coupling means comprise~~ coupling mechanism comprises a mechanical
attachment~~[[s]]~~.

6. (currently amended) ~~[[An]]~~ The end-effector device as in claim 5,
wherein the ~~coupling means comprise~~ mechanical attachment includes threading within an
~~end-effector~~ the insulative sleeve for attachment with ~~complementary~~ complementary
threading on a mating component ~~permanently attached to~~ of the electrosurgical
instrument.

7. (currently amended) ~~[[An]]~~ The end-effector device as in claim 5,
wherein the ~~coupling means comprise~~ mechanical attachment includes at least one spring
tab or latching member ~~on the proximal end of the device~~ for attachment with at least one
protrusion within a housing ~~permanently attached to~~ of the electrosurgical instrument.

8. (currently amended) ~~[[An]]~~ The end-effector device as in claim 4,
wherein the ~~coupling means comprise~~ coupling mechanism comprises an electrical
attachment~~[[s]]~~.

9. (currently amended) ~~[[An]]~~ The end-effector device as in claim 8,
wherein the ~~coupling means comprise~~ electrical attachment includes an electrical
connector ~~on the proximal end of the device~~ for electrical connection with a transmission
member via a spring member of the electrosurgical instrument.

10. (currently amended) ~~[[An]]~~ The end-effector device as in claim 8,
wherein the ~~coupling means comprise~~ electrical attachment includes an electrical

connector ~~on the proximal end of the device~~ for electrical connection with a transmission member via a gripping member of the electrosurgical instrument.

11. (currently amended) ~~[[An]]~~ The end-effector device as in claim 8,
~~wherein the coupling means comprise electrical attachment includes an electrical~~
~~connector on the proximal end of the device and having an electrical tab on the proximal~~
~~end of the electrical connector~~ for electrical connection with a transmission member via an
electrical platform of the electrosurgical instrument.

12. (currently amended) ~~[[An]]~~ The end-effector device as in claim 8,
~~further comprising wherein the at least one internal sealing ring comprises at least one o-~~
~~ring or silicone potting associated with the coupling means to seal the electrical~~
~~connection.~~

13. (currently amended) ~~[[An]]~~ The end-effector device as in claim 4,
wherein the end-effector device is constructed so as to be disposable.

14. (currently amended) ~~[[An]]~~ The end-effector device as in claim 4,
~~further comprising a lockout feature associated with the coupling means for preventing re-~~
~~use of the end-effector device wherein the coupling mechanism is configured so as to be~~
~~incapable of re-coupling to the electrosurgical instrument after once being coupled to and~~
~~uncoupled from the electrosurgical instrument.~~

15. (currently amended) ~~[[An]]~~ The end-effector device as in claim 1,
wherein the ~~coupling means provides for permanent coupling of coupling mechanism~~
effectively permanently couples the device with the electrosurgical instrument.

16. (currently amended) ~~[[An]]~~ The end-effector device as in claim 1,
~~wherein the at least one insulation material comprises: a first further comprising an~~
insulation layer disposed at least partially around the active electrode; ~~and a second-~~

insulation layer disposed at least partially around the first layer or the active electrode and one of the at least one internal sealing ring so as to additionally inhibit fluid from entering into the interior of the insulative sleeve and making contact with any portion of the electrode disposed therein during the minimally invasive surgical procedure.

17. (currently amended) **[[An]]** The end-effector device as in claim 16, wherein the first insulation layer comprises ceramic material, glass, silicone, polypropylene, fluoropolymer, or insulating plastic.

18. (currently amended) **[[An]]** The end-effector device as in claim 17, wherein the second-layer insulative sleeve comprises ceramic material, glass, silicone, polypropylene, fluoropolymer, or insulating plastic.

19. (currently amended) **[[An]]** The end-effector device as in claim 17, wherein the first insulation layer comprises a first insulation material completely encircling part of the active electrode, and wherein the second-layer insulative sleeve comprises a second insulation material completely encircling the first layer and abutting the electrosurgical instrument.

20. (withdrawn) An electrosurgical instrument for use with a robotic surgical system, the electrosurgical instrument comprising: an elongate shaft having a proximal end and a distal end; an end-effector removably coupled with the distal end of the shaft, the end-effector having at least one active electrode and at least one insulation material disposed at least partially around the active electrode for inhibiting conduction of electrical current from the active electrode to the electrosurgical instrument; and an interface coupleable to the proximal end of the shaft, the interface removably connectable to the robotic surgical system.

21. (withdrawn) An electrosurgical instrument as in claim 20, wherein the at least one active electrode comprises a scalpel blade, a beaver blade, a hook, a spatula, movable jaws, scissors, a needle point, hockey stick, dissectors, or a probe.

22. (withdrawn) An electrosurgical instrument as in claim 20, wherein the end-effector further comprises an end-effector sleeve having threading for attachment with complimentary threading on a mating component permanently attached to the distal end of the shaft.

23. (withdrawn) An electrosurgical instrument as in claim 20, wherein the end-effector further comprises at least one spring tab or latching member for attachment with at least one protrusion within a housing permanently attached to the distal end of the shaft.

24. (withdrawn) An electrosurgical instrument as in claim 20, wherein the at least one insulation material comprises: a first insulation layer disposed at least partially around the active electrode; and a second insulation layer disposed at least partially around the first layer or the active electrode.

25. (withdrawn) An electrosurgical instrument as in claim 24, wherein the first layer comprises ceramic material, glass, silicone, polypropylene, fluoropolymer, or insulating plastic.

26. (withdrawn) An electrosurgical instrument as in claim 25, wherein the second layer comprises ceramic material, glass, silicone, polypropylene, fluoropolymer, or insulating plastic.

27. (withdrawn) An electrosurgical instrument as in claim 24, wherein the first layer comprises a first insulation material completely encircling part of the active

electrode, and wherein the second layer comprises a second insulation material completely encircling the first layer and abutting the electrosurgical instrument.

28. (withdrawn) A method of making an end-effector device for use with an electrosurgical instrument for robotic surgery, the method comprising: assembling the end-effector device, wherein the device has at least one active electrode; applying a first insulator to at least part of the active electrode to inhibit surface conduction of current from the active electrode back to the electrosurgical instrument; and applying a second insulator to at least part of the active electrode or the first insulator to further inhibit surface conduction from the active electrode back to the electrosurgical instrument.

29. (withdrawn) A method as in claim 28, wherein applying the first insulator comprises applying a glass insulator around a portion of the active electrode.

30. (withdrawn) A method as in claim 29, wherein the glass insulator has a pre-molded shape to fit within a corresponding shape on the active electrode.

31. (withdrawn) A method as in claim 29, wherein applying the glass insulator comprises soldering or fusing the glass insulator to the active electrode.

32. (withdrawn) A method as in claim 29, wherein applying the second insulator comprises applying a ceramic insulator around a portion of the active electrode immediately proximal to the glass insulator.

33. (withdrawn) A method as in claim 28, wherein applying the first insulator comprises coating a length of the active electrode with a ceramic insulator.

34. (withdrawn) A method as in claim 33, wherein applying the second insulator comprises covering at least a portion of the ceramic insulator with a fluoropolymer insulator.

35. (withdrawn) A method as in claim 34, wherein at least one of the first insulator or the second insulator abuts the electrosurgical instrument.

36. (withdrawn) A method of performing a robotic surgical procedure, the method comprising: connecting a surgical instrument to a robotic surgical system, the surgical instrument having an elongate shaft at a distal end of which an end-effector is coupled; passing the end-effector of the surgical instrument through an entry port in a patient body; engaging tissue with an active electrode of the end-effector; and delivering electrical energy to the tissue with the active electrode while inhibiting conduction of the electrical energy from the active electrode toward the distal end of the elongate shaft.

37. (withdrawn) A method as in claim 36, further comprising removably coupling the end-effector with the surgical instrument.

38. (withdrawn) A method as in claim 37, wherein removably coupling the end-effector does not require a coupling tool.

39. (withdrawn) A method as in claim 37, further comprising disabling the end-effector after the robotic surgical procedure is performed.

40. (withdrawn) A method as in claim 36, wherein delivering the electrical energy while inhibiting conduction is achieved via at least one layer of insulation disposed on at least part of the active electrode.

41. (withdrawn) A method as in claim 40, wherein the at least one layer of insulation comprises two layers of insulation.

42. (withdrawn) A method as in claim 41, further comprising sealing the layers of insulation with a silicone adhesive.

43. (withdrawn) A method as in claim 40, further comprising sealing the insulation layer to the active electrode with an over-molding process.

44. (withdrawn) An electrosurgical instrument for use with a robotic surgical system, the electrosurgical instrument comprising: an elongate shaft having a proximal end and a distal end; an end-effector removably coupled with the distal end of the shaft, the end-effector comprising: at least one active electrode, the active electrode comprising a hook or spatula; an end-effector sleeve disposed at least partially around the active electrode, the sleeve having threading for attachment with complimentary threading on a mating component permanently attached to the distal end of the shaft; an electrical connector within the sleeve for electrical connection with a transmission member via a gripping member of the mating component; and an interface coupleable to the proximal end of the shaft, the interface removably connectable to the robotic surgical system.

45. (withdrawn) An electrosurgical instrument as in claim 44, wherein the sleeve comprises an insulation material for inhibiting conduction of electrical current from the active electrode to the electrosurgical instrument.

46. (withdrawn) An electrosurgical instrument for use with a robotic surgical system, the electrosurgical instrument comprising: an elongate shaft having a proximal end and a distal end; an electrocautery end-effector coupled with the distal end of the shaft, the end-effector comprising: an electrocautery hook or spatula; a first insulation layer disposed at least partially around the hook or spatula so as to inhibit conduction of electrical current from the active electrode to the electrosurgical instrument; a second insulation layer disposed at least partially around the first layer or the hook or spatula so as to further inhibit conduction of electrical current from the active electrode to the electrosurgical instrument; and an interface coupleable to the proximal end of the shaft, the interface removably connectable to the robotic surgical system.

47. (withdrawn) A robotical surgical system comprising: a robotic arm having an instrument holder; an electrocautery instrument detachably mountable on the instrument holder, the electrocautery instrument having a proximal portion for engaging the instrument holder, an elongate shaft extending from the proximal portion to a distal end, an end-effector removably coupled with the distal end of the shaft, the end-effector having at least one active electrode and at least one insulation material disposed at least partially around the active electrode; and an electrosurgical generator to transmit electrosurgical energy to the active electrode.

Claim 48 (canceled).

49. (new) A method for manufacturing an end-effector device for use with an electrosurgical instrument for performing a minimally invasive surgical procedure, comprising: disposing an insulative sleeve at least partially around an electrode so as to inhibit conduction of electrical current flowing from the electrode to an electrosurgical instrument when the end-effector is coupled to the electrosurgical instrument; and disposing at least one internal sealing ring within the insulative sleeve and around the electrode so as to inhibit fluid from entering into an interior of the insulative sleeve and making contact with any portion of the electrode disposed therein during a minimally invasive surgical procedure.

50. (new) The method as in claim 49, further comprising: disposing an insulation layer at least partially around the electrode and one of the at least one internal sealing ring so as to additionally inhibit fluid from entering into the interior of the insulative sleeve and making contact with any portion of the electrode disposed therein during the minimally invasive surgical procedure.